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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,215	12/27/2000	Munenori Iizuka	Q62482	5359

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EXAMINER
PATTERSON, MARC A

ART UNIT	PAPER NUMBER
1772	9

DATE MAILED: 02/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS8

Office Action Summary	Application N .	Applicant(s)	
	09/748,215	IIZUKA ET AL.	
	Examiner	Art Unit	
	Marc A Patterson	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 December 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

WITHDRAWN REJECTIONS

1. The 35 U.S.C 112 second paragraph rejections of Claims 1 and 7 – 8, of record on page 2 of the previous Action, are withdrawn.

NEW REJECTIONS

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 6 recites the limitation "an opposite end of its outer surface to one end having a flange" in line 3. There is insufficient antecedent basis for this limitation in the claim.

4. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase 'for the photosensitive drum that is mounted in electrophotographic apparatus' is indefinite, as its meaning is unclear. For purposes of examination, the phrase will be assumed to mean 'for a photosensitive drum that is mounted in electrophotographic apparatus'

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 6 – 8 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawata et al (U.S. Patent No. 5,890,395).

With regard to Claims 6 – 8 and newly submitted Claim 21, Kawata et al disclose a resin pipe (cylindrical tube made from resin, therefore having a curved sectional geometry with a round top; column 4, lines 33 – 55), the resin pipe having a projection radially protruding outward from one end of its outer surface (a cylindrical tube and coaxial cylindrical driving flange, therefore driving gear; column 5, lines 1 – 33). With regard to the claimed aspect of the projection being 'integrally molded,' the projection is integrally molded (the cylindrical tube and a coaxial cylindrical driving flange are molded in first and second molding steps; column 5, lines 1 – 33). However, as the scope of the claims falls within the limitations of Kawata et al., The method of making the pipe (product – by – process) is given little patentable weight. Applicant would need to demonstrate, by verified showing, the unexpected advantages accruing from the method of making as claimed.

With regard to Claim 7, the projection is a flange formed on the entire outer circumference of one end of the outer surface (column 5, lines 39 – 49; Figure 1A).

With regard to Claim 8, the pipe is an electrophotographic photoconductor (column 3, lines 12 – 25); the claimed aspect of the pipe being a 'cylindrical base for the photosensitive drum to be mounted in an electrophotographic apparatus' therefore reads on Kawata et al.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1 – 2 and 4 – 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bito et al. (U.S. Patent No. 5,983,055) in view of Shintani et al (U.S. Patent No. 5,124,219).

With regard to Claims 1, and 5, Bito et al disclose a resin pipe (cylindrical body of synthetic resin; column 1, lines 50 – 59), which is a base for a photosensitive drum (column 28, line 49), which is comprises a thermoplastic resin (nylon; column 29, lines 64 – 67; column 30, lines 1 – 7); the resin pipe has a tapered inner surface to facilitate demolding (column 27, lines 2 – 10). Bito et al fail to disclose a resin which is an alloy resin of a blend of a polyamide resin with a resin having a water absorption no higher than 0.3%.

Shintani et al teach the use of a polyamide having a water absorption less than 10% in a photosensitive member (column 2, lines 5 – 17) for the purpose of obtaining a member which is improved in humidity resistance (column 2, lines 5 – 17). The desirability of providing for a polyamide or polyamide blend having a water absorption less than 10% in Bito et al, which is a photosensitive member, would therefore be obvious to one of ordinary skill in the art.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a blend of a polyamide resin with a resin

having a water absorption no higher than 10% in Bito et al in order to obtain a member which is improved in humidity resistance as taught by Shintani et al.

Shintani et al fail to disclose a resin having a water absorption no higher than 0.3%. However, as stated above, Shintani et al disclose a resin having a water absorption no higher than 10%. Therefore, the water absorption would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the water absorption, since the water absorption would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Shintani et al. *In re Boesch and Slaney, 205 USPQ 215 (CCPA 1980).*

With regard to the claimed aspect of the resin being formed by 'injection molding,' the pipe is formed by injection molding (column 29, lines 64 – 67; column 30, lines 1 – 7). However, as the scope of the claims falls within the limitations of Bito et al. and Shintani et al, The method of making the pipe (product – by – process) is given little patentable weight. Applicant would need to demonstrate, by verified showing, the unexpected advantages accruing from the method of making as claimed.

With regard to the claimed aspect of the resin being an 'alloy resin,' Bito et al disclose that polyamide and polyethylene are equivalent as resin materials (column 27, lines 62 – 66); the claimed aspect of the resin being an 'alloy resin' therefore reads on Bito et al.

Bito et al fail also to disclose a taper angle having a tangent between 0.5×10^{-3} and 3.5×10^{-3}. However, Bito et al. disclose a taper angle having a tangent of 3.6×10^{-3} (the size of the body is 270 – 280 mm, 27 mm inner diameter at one end and 28 mm inner diameter at the

opposite end; column 27, lines 57 – 61; Figure 2). Therefore, the taper angle would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the taper angle, since the taper angle would be readily determined through routine experimentation by one having ordinary skill in the art depending on the desired end result as shown by Bito et al *In re Dailey et al., 119 USPQ 47 (CCPA 1966).*

With regard to Claims 2 and 4, the pipe comprises an electrically conductive resin compound composed of a thermoplastic resin and a conducting material dispersed therein (carbon black, which is also a reinforcing inorganic filler; column 27, lines 62 – 67; column 28, lines 1 – 14).

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bito et al. (U.S. Patent No. 5,983,055) in view of Shintani et al (U.S. Patent No. 5,124,219) and further in view of Nishimuro et al (U.S. Patent No. 5,991,574).

Bito et al and Shintani et al disclose a resin pipe comprising nylon as discussed above. Bito et al fail to disclose a resin pipe comprising nylon 6 (nylon obtained from caprolactam).

Nishimuro et al teach the use of nylon 6 in the making of a resin pipe (column 2, lines 64 – 67; column 3, lines 1 – 8) for the purpose of making a photosensitive drum having enhanced reliability (column 1, lines 65 – 66; column 2, lines 1 – 3).

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for nylon 6 in Bito et al and Shintani et al in order to make a photosensitive drum having enhanced reliability as taught by Nishimuro et al.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawata et al (U.S. Patent No. 5,890,395) in view of Nishimuro et al (U.S. Patent No. 5,991,574).

Kawata et al disclose a resin pipe comprising polyphenylene sulfide as discussed above. Kawata et al fail to disclose a resin pipe comprising nylon 6 (nylon obtained from caprolactam).

Nishimuro et al teach that polyphenylene sulfide and nylon 6 are equivalent in the making of a resin pipe (column 3, lines 3 - 8) for the purpose of making a photosensitive drum having enhanced reliability (column 1, lines 65 – 66; column 2, lines 1 – 3).

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for nylon 6 in Kawata et al in order to make a photosensitive drum having enhanced reliability as taught by Nishimuro et al.

ANSWERS TO APPLICANT'S ARGUMENTS

11. Applicant's arguments regarding the 35 U.S.C 112 second paragraph rejections of Claims 1 and 7 – 8, 35 U.S.C. 102(b) rejection of Claims 6 – 8 as being anticipated by Kawata et al (U.S. Patent No. 5,890,395), 35 U.S.C. 103(a) rejection of Claims 1 – 2 and 4 – 5 as being unpatentable over Bito et al. (U.S. Patent No. 5,983,055), 35 U.S.C. 103(a) rejection of Claim 3 as being unpatentable over Bito et al. (U.S. Patent No. 5,983,055) in view of Nishimuro et al (U.S. Patent No. 5,991,574), and 35 U.S.C. 103(a) rejection of Claim 9 as being unpatentable over Kawata et al (U.S. Patent No. 5,890,395) in view of Nishimuro et al (U.S. Patent No. 5,991,574), of record on page 2 of the previous Action, have been considered and have been found to be persuasive. The rejections are therefore withdrawn. The new 35 U.S.C. 112 second

paragraph rejections of Claims 6 and 8, 35 U.S.C. 102(b) rejection of Claims 6 – 8 as being anticipated by Kawata et al (U.S. Patent No. 5,890,395), 35 U.S.C. 103(a) rejection of Claims 1 – 2 and 4 – 5 as being unpatentable over Bito et al. (U.S. Patent No. 5,983,055) in view of Shintani et al (U.S. Patent No. 5,124,219), 35 U.S.C. 103(a) rejection of Claim 3 as being unpatentable over Bito et al. (U.S. Patent No. 5,983,055) in view of Shintani et al (U.S. Patent No. 5,124,219) and further in view of Nishimuro et al (U.S. Patent No. 5,991,574), and 35 U.S.C. 103(a) rejection of Claim 9 as being unpatentable over Kawata et al (U.S. Patent No. 5,890,395) in view of Nishimuro et al (U.S. Patent No. 5,991,574) above are directed to amended Claims 1 – 9.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Patterson, whose telephone number is (703) 305-3537. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (703) 308-4251. FAX communications should be sent to (703) 872-9310. FAXs received after 4 P.M. will not be processed until the following business day.

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Marc Patterson
Art Unit 1772

HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

2/24/03